

**Faculty Development Program
(through Online mode)**

on

“GIS & Remote Sensing”

Sponsored By

**AICTE - Training and Learning
(ATAL) Academy**



06th -10th July 2021



Organized By

**Department of Electronics &
Telecommunication Engineering
Institute of Engineering and Technology
(University Teaching
Department)**

Devi Ahilya University
Khandwa Road, Indore (M.P.) – 452017,
India
www.ietdavv.edu.in

Registration for FDP:

Through the online Link only :

<https://www.aicte-india.org/atal>

About the Course:

The contents of the FDP are designed in such a way that this program fulfills the model curriculum of AICTE on GIS & Remote Sensing. The FDP deals with geospatial technologies that include the study of Geographic Information Systems (GIS), Global Positioning Systems (GPS) and Remote Sensing. It plays vital role in our daily life activities and is embedded in most of the systems and applications such as weather forecasting, climate changes, navigation, route mapping etc. This FDP also focuses on various kinds of sensors mounted on satellite/aircraft for data acquisition and also on digital image processing techniques used for remote sensing. The FDP shall dwell on current and future development as well as future R & D trends in technologies related to above areas.

FOCUS AREAS

- Geographical Information Systems and Applications
- Geospatial Technology for Environmental Hazards & Disaster Management
- Application of Geospatial Technology for Earth Resource Survey; Its Future Trends & Opportunities
- GPS/GNSS remote sensing for various applications
- Satellite in remote sensing
- Sensors for remote sensing
- Digital image processing for remote sensing
- GIS, GPS in Engineering & Technology
- Climate change and remote sensing
- Future Trends of Geospatial technologies/Drone systems

Address for Correspondence & Coordinator:

Dr. Uma Rathore Bhatt,

Assistant Professor,
Institute of Engineering and Technology, Devi Ahilya
University, Khandwa Road, Indore
Cell: 9425333837, 9399260833
Email: umabhath@ietdavv.edu.in, uvrathore@gmail.com,
umarathore@rediffmail.com

Key Invited Speakers:

Dr Kunal Kumar Das

Professor & Scientist (Retd),
Indian Institute of Remote Sensing, ISRO
Deharadun,

Dr. Krishna Mohan Buddhiraju

Professor
Centre of Studies in Resources
Engineering
Indian Institute of Technology, Bombay, Mumbai

Dr. Siddharth Soni

Chairman, Indian Society of Remote Sensing,
Indore Chapter

Founder coordinator & Professor Emeritus,
Centre for Remote Sensing and Satellite
Technology SGSITS Indore,

Dr. Saurabh Das

Asst. Professor
Astronomy, Astrophysics & Space Engineering
Indian Institute of Technology, Indore

Dr. Dericks P Shukla

Asst. Professor
School of Engineering,
Indian Institute of Technology, Mandi
Himachal Pradesh

Mr. Hari Shankar Gangwar

Scientist/Engineer ‘SE’
Disaster Management Studies Department, Indian
Institute of Remote Sensing, ISRO Dehradun

Dr. Uma Rathore Bhatt

Asst. Professor,
Electronics & Telecomm. Engineering
Institute of Engineering & Technology,
Devi Ahilya University, Indore

Targeted Participants: Faculty members from
Engineering Colleges, research scholars, post graduate
students and personnel from government/industry.

Registration fees: There is NO registration fee for
participants. Registration can be through link:

<https://www.aicte-india.org/atal>

Institute of Engineering and Technology, Devi Ahilya University, Indore
 Schedule for AICTE Sponsored FDP Program on “GIS & Remote Sensing”
 06th -10th July 2021

DAY/Timings		Session I 09:00 AM-11:00AM	Session II 11:15 AM-1:15PM	Session III 2:00PM-4:00PM
06-07-2021	Name of Expert	Dr. Uma Rathore Bhatt	Dr. Uma Rathore Bhatt	Mr. Hari Shankar Gangwar
	Organization	IET, DAVV, Indore	IET, DAVV, Indore	Scientist/Engineer ‘SE’, Disaster Management Studies Department, Indian Institute of Remote Sensing, ISRO Dehradun
	Topic	Introduction and overview of the FDP	Satellite in Remote Sensing	Geographical Information Systems and Applications
07-07-2021	Name of Expert	Mr. Hari Shankar Gangwar	Dr. Saurabh Das	Dr. Saurabh Das
	Organization	Scientist/Engineer ‘SE’, Disaster Management Studies Department, Indian Institute of Remote Sensing, ISRO Dehradun	Asst. Professor Astronomy, Astrophysics & Space Engg Indian Institute of Technology, Indore	Asst. Professor Astronomy, Astrophysics & Space Engg. Indian Institute of Technology, Indore
	Topic	Remote Sensing technology and Satellite Sensors	GPS/GNSS remote sensing for various applications	Climate change and remote sensing
08-07-2021	Name of Expert	Dr. Kunal Kumar Das	Dr. Kunal Kumar Das	Dr. Dericks P Shukla
	Organization	Professor & Scientist (Retd), Indian Institute of Remote Sensing, ISRO Dehradun	Professor & Scientist (Retd), Indian Institute of Remote Sensing, ISRO Dehradun	Asst. Professor School of Engg., IIT, Mandi
	Topic	Geospatial Technology for Environmental Hazards & Disaster Management	Application of Geospatial Technology for Earth Resource Survey; Its Future Trends & Opportunities	Remote Sensing Applications
09-07-2021	Name of Expert	Dr. Krishna Mohan Buddhiraju	Dr. Krishna Mohan Buddhiraju	Meditation
	Organization	Professor CSRE, IIT Bombay	Professor, CSRE, IIT Bombay	
	Topic	Digital image processing for remote sensing	Digital image processing for remote sensing (LAB)	
10-07-2021	Name of Expert	Dr. Siddharth Soni	Dr. Siddharth Soni	Dr. Uma Rathore Bhatt
	Organization	Chairman, ISRR, Indore Chapter Founder coordinator & Professor Emeritus, SGSITS Indore,	Chairman, ISRR, Indore Chapter Founder coordinator & Professor Emeritus, SGSITS Indore,	IET, DAVV, Indore
	Topic	GIS, GPS in Engineering & Technology	Application of Drone systems	Test Conduction/ Feedback/ Valedictory function

Institute of Engineering & Technology, Devi Ahilya University, Khandwa Road, Indore

UTILIZATION CERTIFICATE FOR THE FINANCIAL YEAR April 2021-March 2022

Name of the Scheme under which Grant was sanctioned: AICTE Training and Learning (ATAL) Academy,
(Online FDP)

(to be submitted separately for each sanction order)

AICTE File No. :F. No. 01/AICTE/ATAL_HQ/2020-21, Date-03-06-2021

Name of Co-ordinator :Dr. Uma Rathore Bhatt

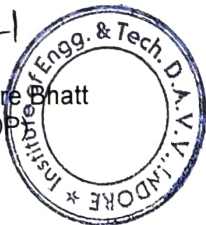
Dates of the Programme:6th of July 2021 - 10th of July 2021

Title of the ATAL Programme:GIS & Remote Sensing

Sl. No.	AICTE Sanction Order/Letter No. & Date under which grant was sanctioned	Amount (Rs.)	
1.	F. No. 01/AICTE/ATAL_HQ/2020-21, Date-03-06-2021	93,000/-	Certified that out of the grant-in-aid of Rs. 93,000/-(Ninety Three Thousand Only) sanctioned by the AICTE during the financial year April 2021-March 2022 in favour of Institute of Engineering & Technology, Devi Ahilya University, Indore as per letter mentioned in the margin, Rs. NIL on account of unspent balance of previous year, NIL on account of other income / receipts, a sum of Rs. 93,000/- has been utilized for the purpose for which it was sanctioned and the balance of Rs. NIL remained unutilized at the end of the year.

Certified that I have satisfied myself that the conditions on which the grant-in-aid was sanctioned have been duly fulfilled and that I have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

1). Dr. Uma Rathore Bhatt
(Coordinator of FDP)



(2). Dr. Sanjiv Tokekar
Director, IET, DAVV, Indore

Director
Institute of Engineering & Technology
Devi Ahilya Vishwavidyalaya
INDORE

(3). Finance Controller
Devi Ahilya University Indore

Controller of Finance
Devi Ahilya Vishwavidyalaya
INDORE

सहायक संचालक (रेखा.)

(4). RAD/RSA
Devi Ahilya University, Indore

(5). Head of Organization (Registrar)
Devi Ahilya University, Indore

Registrar
Devi Ahilya Vishwavidyalaya
INDORE



Report on
AICTE Training and Learning (ATAL) Academy
Sponsored

Faculty Development Program

On

“Energy Engineering”


12th - 16th July 2021

FDP Coordinator

Dr. Govind Maheshwari

Associate Professor ,
Mechanical Engineering Department,
IET-DAVV, Indore
9826247653

Faculty Development Program(FDP) on Energy Engineering

- *AICTE Sponsored FDP program on “Energy Engineering” under ATAL scheme was conducted through online mode during 12th-16th July, 2021 in IET-DAVV Indore under aegis of Mechanical Engineering Department*
 - *Total 144 participants got certificate as per the AICTE criteria of 80% Attendance and 60% minimum marks in test conducted during the program.*
 - *The program was scheduled for 5 days and as per the guideline of AICTE and total 14 session was conducted. Duration of each session is planned as 2 hrs. was taken by the experts. The experts were known academicians from various reputed Institutes/organizations of India. Many of the resource persons were pioneer in the field of Finite Time Thermodynamics and exergy which are the two prominent terms in Energy Engineering.*
 - *Most of the resource persons were from IITs and NITs. Practical Applications were also illustrated during the sessions from the experts.*
- 

**AICTE Training and Learning (ATAL)
Academy**

Sponsored

Faculty Development Program

On

“Energy Engineering”

12th July - 16th July, 2021

Inaugural Function

12th July, 2021

Presented By

*Mechanical Engineering Department,
Institute of Engineering & Technology,
Devi Ahilya University, Indore*

Speakers at the Inaugural Session



Dr. Ashok Kumar Sharma
Rector,
DAVV, Indore



Dr. Sanjiv Tokekar
Director,
IET-DAVV, Indore



Dr. Ashesh Tiwari
Professor & HOD,
IET-DAVV, Indore



Dr. Govind Maheshwari
(Coordinator of FDP),
IET-DAVV, Indore

**AICTE Training and Learning (ATAL)
Academy**

Sponsored

Faculty Development Program

On

“Energy Engineering”

12th July - 16th July, 2021

Sessions
Day 1 - 12th July 2021

Coordinator

Dr. Govind Maheshwari

Associate Professor ,
Mechanical Engineering Department,
Institute of Engineering and Technology,
Devi Ahilya University, Indore



Dr. Govind Maheshwari
IET-DAVV, Indore

Introduction and Overview of
the FDP

09:30 AM - 11:30 AM



Dr. Govind Maheshwari
IET-DAVV, Indore

Energy Analysis of simple Vapour
Absorption Refrigeration System

12 Noon - 2 PM



Dr. Manoj Kumar Gupta
GEC, Ujjain

Energy Analysis of Solar Air
Heater in Energy Systems

2:30 PM - 4:30 PM

**AICTE Training and Learning (ATAL)
Academy**

Sponsored

Faculty Development Program

On

“Energy Engineering”

12th July - 16th July, 2021

Sessions
Day 2 - 13th July 2021

Coordinator

Dr. Govind Maheshwari

Associate Professor ,
Mechanical Engineering Department,
Institute of Engineering and Technology,
Devi Ahilya University, Indore



Dr. Vikas Verma
Central University,
Tezpur, Guwahati

Performance Analysis of Solar
Assisted Geothermal Heat Pump

9:30 AM - 11:30 AM



Dr. Ritunesh Kumar
IIT Indore

Exergy analysis of open Vapour
Absorption Refrigeration System

12 Noon - 2 PM



Dr. Ashok
NIT Delhi

Recent Advances in Vapour
Compression Refrigeration

2:30 PM - 4:30 PM

**AICTE Training and Learning (ATAL)
Academy**

Sponsored

Faculty Development Program

On

“Energy Engineering”

12th July - 16th July, 2021

Sessions
Day 3 - 14th July 2021

Coordinator

Dr. Govind Maheshwari

Associate Professor ,
Mechanical Engineering Department,
Institute of Engineering and Technology,
Devi Ahilya University, Indore



Dr. Rajvir Singh Doohan
RRCAT Indore

Energy Analysis of Helium
Liquefier in Cryogenics

9:30 AM - 11:30 AM



Dr. Dheerendra Vikram Singh
IIST Indore

Analysis of Absorption Compression
Cascade Refrigeration System

12 Noon - 2 PM



Dr. Yamini Karmarkar
DAVV Indore

Nurturing Life Energy Through
Meditation

2:30 PM - 4:30 PM

**AICTE Training and Learning (ATAL)
Academy**

Sponsored

Faculty Development Program

On

“Energy Engineering”

12th July - 16th July, 2021

Sessions
Day 4 - 15th July 2021

Coordinator

Dr. Govind Maheshwari

Associate Professor ,
Mechanical Engineering Department,
Institute of Engineering and Technology,
Devi Ahilya University, Indore



Dr. Akhilesh Arora
Delhi College of
Engineering, New Delhi

**Thermodynamic Analysis of
Advanced Refrigeration Cycles**

9:30 AM - 11:30 AM



Dr. Tikendra Nath Verma
MANIT Bhopal

**Thermodynamic Evaluation of
Multistage Refrigeration
System**

12 Noon - 2 PM



Dr. Sanjay Khatwani
SDBCT Indore

**New Thermodynamic Parameters
for the Performance Evaluation of
Energy Conversion Systems**

2:30 PM - 4:30 PM

**AICTE Training and Learning (ATAL)
Academy**

Sponsored

Faculty Development Program

On

“Energy Engineering”

12th July - 16th July, 2021

Sessions
Day 5 - 16th July 2021

Coordinator

Dr. Govind Maheshwari

Associate Professor ,
Mechanical Engineering Department,
Institute of Engineering and Technology,
Devi Ahilya University, Indore



Dr. S C Kaushik
IIT Delhi

Exergy & Second Law Concepts for
Analyzing the Performance of
Energy Systems

9:30 AM - 11:30 AM



Dr. Roopesh Tiwari
SAGE University, Indore

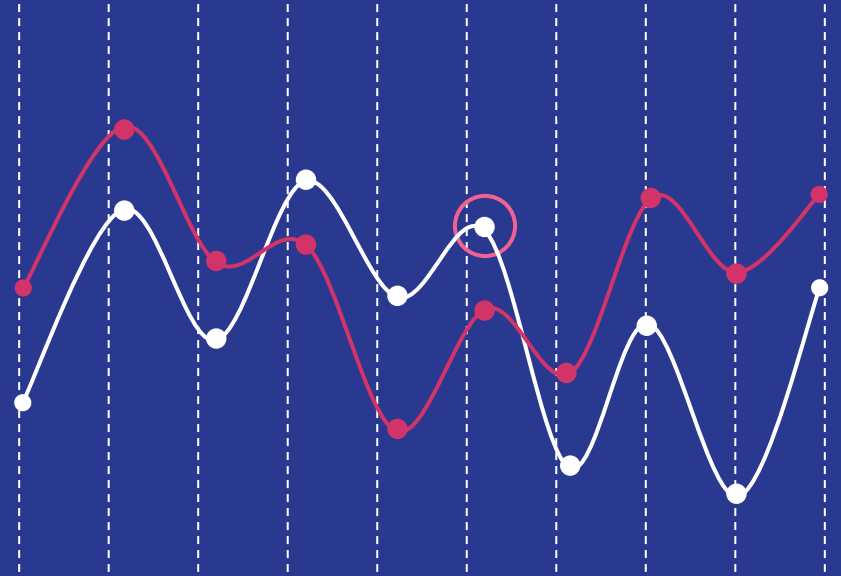
Optimization of Second Law
Efficiency of Energy Systems

12 Noon - 2 PM

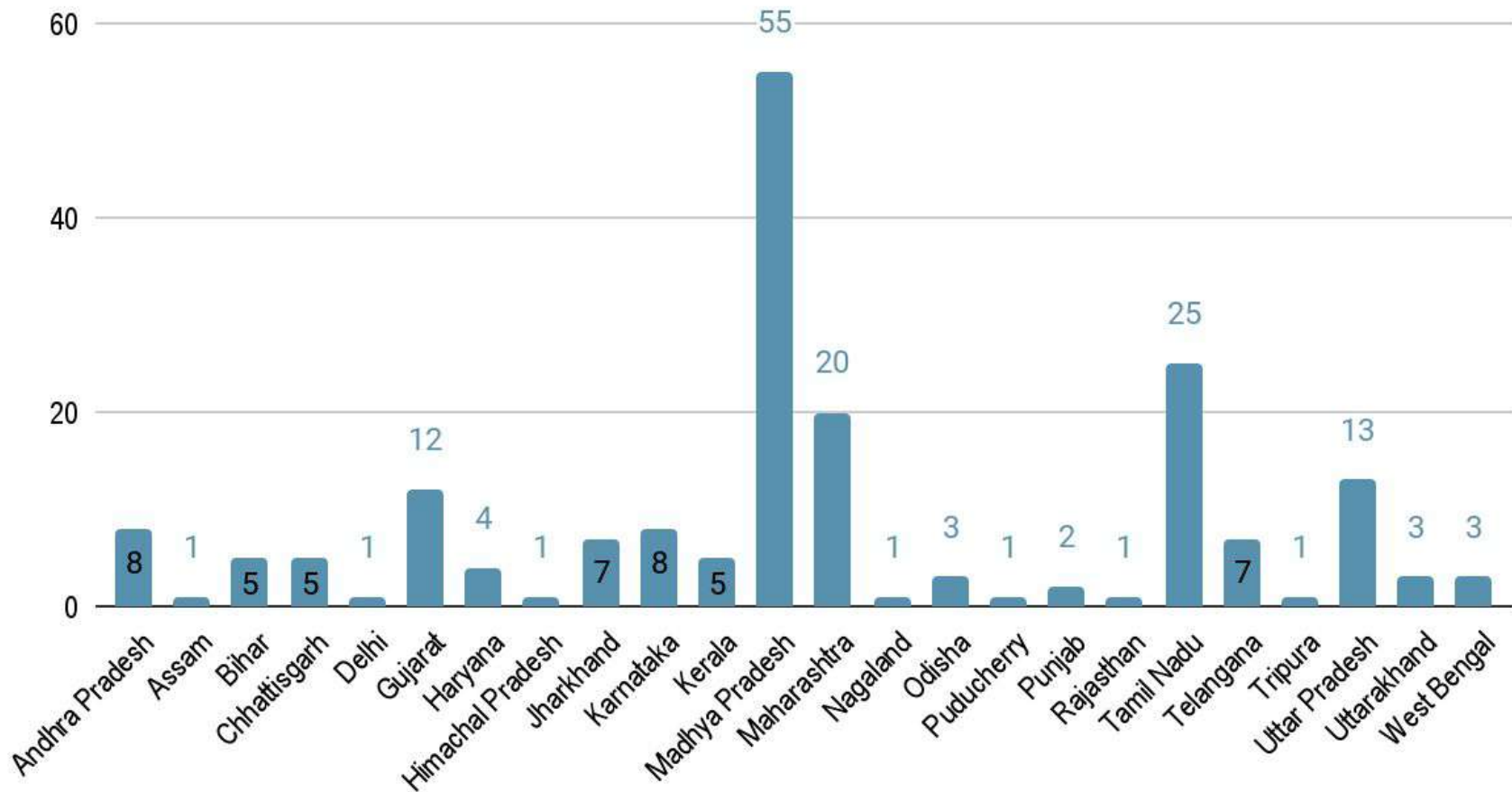
Course Schedule

Day	Morning Session		Forenoon Session		Afternoon Session
	Slot -I (9.30 A.M.-11.30 A.M.)		Slot -II (12.00 P.M.-2.00 P.M.)		Slot -III (2.30 P.M.-4.30 P.M.)
12/07/2021 Monday	Session -1 <i>Inauguration, Introduction and overview of the FDP</i> <i>Dr.Govind Maheshwari, IET, DAVV</i>		Session -2 <i>Energy Analysis of simple Vapour Absorption Refrigeration System</i> <i>Dr.Govind Maheshwari, IET, DAVV</i>		Session -3 <i>Exergy analysis of open Vapour Absorption Refrigeration System</i> <i>Dr.Rutunesh Kumar, IIT Indore</i>
13/07/2021 Tuesday	Session -4 <i>Performance Analysis of Solar Assisted Geothermal Heat Pump</i> <i>Dr.Vikas Verma Central University, Tezpur, Guwahati</i>		Session -5 <i>Energy Analysis of Solar Air Heater in Energy Systems</i> <i>Dr.Manoj Kumar Gupta HOD, Mechanical Engineering Department, GEC, Ujjain</i>		Session -6 <i>Recent Advances in Vapour Compression Refrigeration</i> <i>Dr.Ashok, NIT Delhi</i>
14/07/2021 Wednesday	Session -7 <i>Energy Analysis of Helium Liquefier in Cryogenics</i> <i>Dr.Rajvir Singh Doohan Sr.Scientist, RRCAT, Indore</i>	T E A B R E A K	Session -8 <i>Analysis of Absorption Compression Cascade Refrigeration System</i> <i>Dr.Dheerendra Vikram Singh HOD, Mechanical Engineering Department, IIST, Indore</i>	L U N C H	Session -9 <i>Nurturing Life Energy Through Meditation</i> <i>Dr.Yamini Karmarkar DAVV, Indore</i>
15/07/2021 Thursday	Session -10 <i>Thermodynamic Analysis of Advanced Refrigeration Cycles</i> <i>Dr.Akhilesh Arora Delhi College of Engineering, New Delhi</i>		Session -11 <i>Thermodynamic Evaluation of Multistage Refrigeration System</i> <i>Dr.Tikendra.Nath.Verma MANIT, Bhopal</i>		Session -12 <i>New Thermodynamic Parameters for the Performance Evaluation of Energy Conversion Systems</i> <i>Dr.Sanjay Khatwani SDBCT, Indore</i>
16/07/2021 Friday	Session -13 <i>Exergy & Second Law Concepts for Analyzing the Performance of Energy Systems</i> <i>Dr.S.C.Kaushik, Ex-Director, School of Energy Studies, IIT Delhi</i>		Session -14 <i>Optimization of Second Law Efficiency of Energy Systems</i> <i>Dr.Roopesh Tiwari SAGE University, Indore</i>		Session -15 <i>Test/Valediction/Feedback</i>

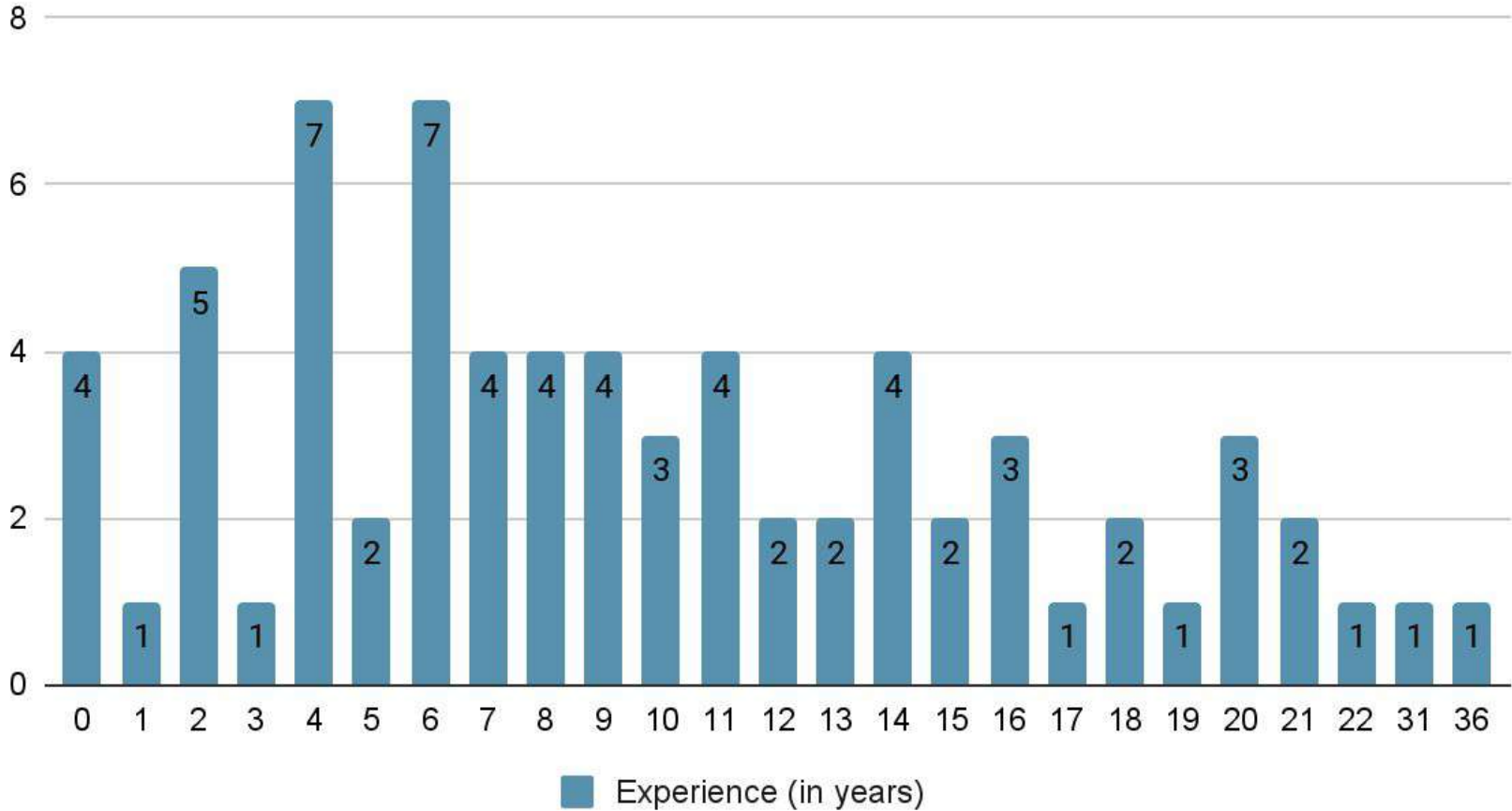
Participant Data



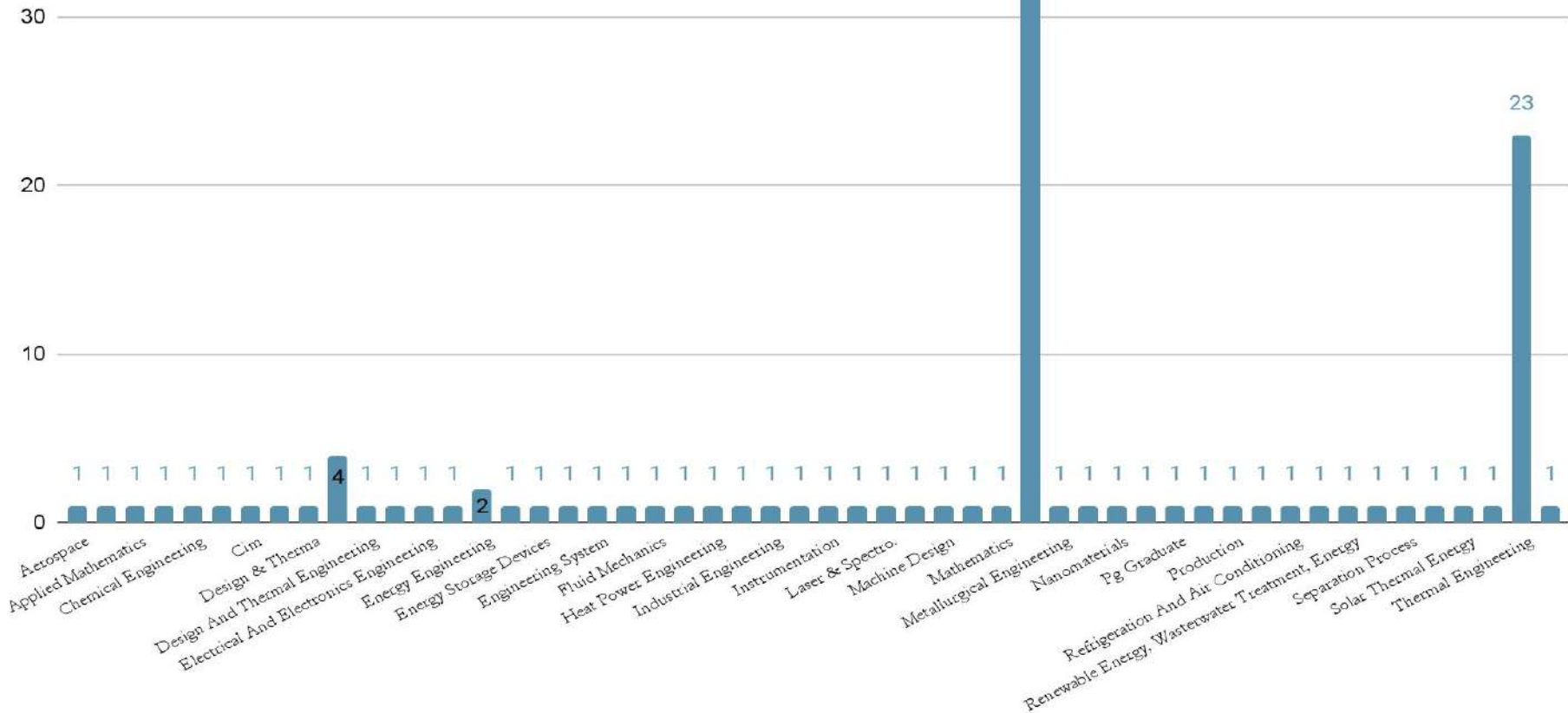
Demography of Participants



Experience of Participants



Specialization of Participants



Glimpses of the Program

Institute of Engineering and Technology,
Devi Ahilya University, Indore

AICTE Sponsored FDP on
"Energy Engineering"

"Optimization of Second Law Efficiency of Energy
Systems"

Dr. Roopesh Tiwari, SAGE University, Indore

Click to add notes



THANK YOU

Click to add notes



Glimpses of the Program

$$X_c = (h - h_0) - T_0 (s - s_0)$$

$$X_{c,i} = C_p (T_i - T_0) - T_0 \left[C_p \ln \left(\frac{T_i}{T_0} \right) - R \ln \left(\frac{P_i}{P_0} \right) \right]$$

$$\Delta X_c = C_p (T_i - T_0) - T_0 C_p \ln \left(\frac{T_i}{T_0} \right)$$

$$X_{c,e} = C_p (T_e - T_0) - T_0 C_p \ln \left(\frac{T_e}{T_0} \right)$$

Ritunesh Kumar

Second Law of Thermodynamics

- Kelvin Plank statement and Clausius statement of the second law are known.
- It is also known as law of degradation of available energy.
- Entropy of the universe is increasing (or) Law of increase of Entropy.
- A higher grade energy can be converted into a lower grade energy but the reverse is impossible without spending additional energy.
- It states that **Heat and Work** are not the same. It is this irreversible behaviour of heat and Work which is responsible for various irreversibilities in the system.
- It states that energy have **quantity** as well as **quality**, and all natural process may take place in the direction of decrease in the quality of energy or increase of entropy generation.
- It can analyze the system for irreversibilities, so that irreversibility losses (controllable and non controllable) can be identified.
- It pin points the irreversibilities in components of the system, so that measures can be taken to reduce controllable irreversibilities.

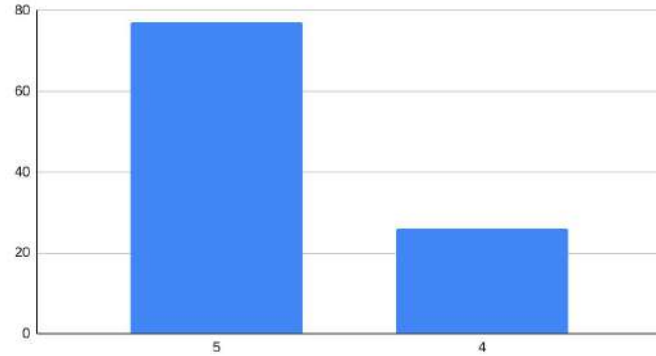
T-S diagram of Carnot Cycle

Abhishek Verma

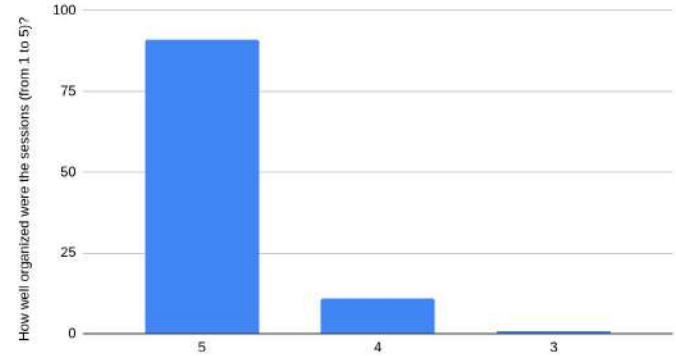
Activate Windows
Go to Settings to activate Windows.

Feedback from the Participants

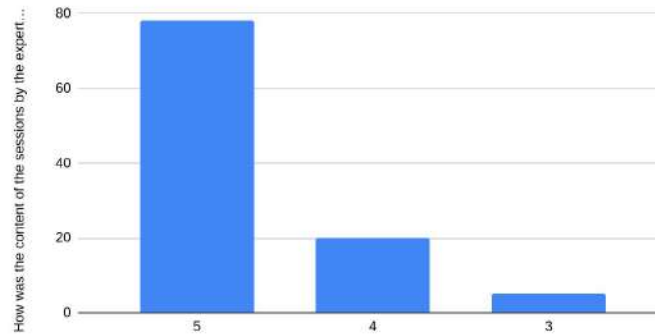
How would you rate the FDP Program (from 1 to 5)?




How well organized were the sessions (from 1 to 5)?



How was the content of the sessions by the experts (from 1 to 5)?





Thanks to AICTE for providing support for conducting the Faculty Development Program (FDP) on Energy Engineering

AICTE Training And Learning(ATAL) Academy Online Programme

FORMAT FOR STATEMENT OF EXPENDITURE

AICTE File No. :F. No. 01/AICTE/ATAL_HQ/2020-21, Date-03-06-2021

Title of the Programme :Thermodynamic Analyses of Energy Systems (Sub Thrust Area -Energy Engineering)

Name of the Coordinator : Dr. GovindMaheshwari

<u>Sanction No. and Date</u>	<u>Grant Sanctioned</u>	<u>Details of expenditure Incurred Item wise</u>	<u>Amount Rs. (in each head)</u>	<u>No.of Participants</u>	<u>Duration of the Programme (with dates)</u>
F. No. 01/AICTE/ATAL_HQ/2020-21, Date-03-06-2021	93,000/-	1. Honorarium to Coordinator (Rs.2000/- per day × 5 days)	10,000/-	145	Five Days (12/07/2021 to 16/07/2021)
		2. Honorarium for experts (Rs.5000 per session for total 14 session).	70,000/-		
		3. Provision for payment to Lab Attendant engaged during lab practices	1,000/-		
		4. Provision for payment to Computer Operator	2,000/-		
		5. Miscellaneous charges	10,000/-		
		Total	93,000/-		
		Grant Received	93,000/-		
		Balance to be Received	NIL		

(1). Dr. GovindMaheshwari
(Coordinator of FDP)



(2). Dr. SanjivTokekar
Director, IET, DAVV, Indore

Director
Institute of Engineering & Technology
Devi Ahilya Vishwavidyalaya
INDORE

(3). Finance Controller
Devi Ahilya University Indore

Controller of Finance
Devi Ahilya Vishwavidyalaya
INDORE

(4). RAD/RSA
Devi Ahilya University Indore

सहायक कुलसचिव (रेसर्स)
स्थायीय निधि रांभरीका, इन्दौर
देवी अहिल्या वि.वि. इन्दौर

(5). Head of Organization (Registrar)
Devi Ahilya University Indore

Registrar

Devi Ahilya Vishwavidyalaya
INDORE



All India Council for Technical Education

(A Statutory body under Ministry of HRD, Govt. of India)

Nelson Mandela Marg, Vasant Kunj, New Delhi-110070 Website: www.aicte-india.org



AICTE Training and Learning (ATAL) Academy, (Online FDP)

F. No. 01_/AICTE/ATAL-HQ/2020-21_____

To

Date: 03.06.2021

Institute of Engineering and Technology, Devi Ahilya University, Indore
Institute of Engineering and Technology, Devi Ahilya University, Khandwa Road, Indore
MADHYA PRADESH

Sub: Release of a sum of Rs 93,000 /- for AICTE Training and Learning (ATAL) Academy OnlineFDP.

Sir,

This is to convey the sanction of the Council for payment of **Rs. 93,000/-** (Rupees **Ninety – Three Thousand Only**) for conduct of online **AICTE Training And Learning (ATAL) Academy FDP (Internet of Things an Emerging Technology in Electronics Industry)** to Institute of Engineering and Technology, Devi Ahilya University, Indore, Institute of Engineering and Technology, Devi Ahilya University, Khandwa Road, Indore, MADHYA PRADESH, under **AICTE Training And Learning (ATAL) Academy**.

This fund is being released in conformity with the terms & conditions as well as norms of the scheme as already communicated, and also being communicated in this letter.

The instructions/guidelines to be followed by University/Institution

I. Release of funds and maintenance of accounts

- a. The University/College/Institute shall maintain proper accounts of the expenditure out of the grants, which shall be utilized only on approved items of expenditure.
- b. The cost for conducting per programme will be Rs.93,000/- as per detail given as under:

1 Honorarium to Coordinator Rs 10,000/-

2 Honorarium for computer operator Rs 2,000/-

3 Honorarium for experts (Rs.5000/session for 14 sessions) Rs 70,000/-

4 Provision for payment to Lab Attendant Rs 1,000/-

5 Miscellaneous charges (petty expenses not covered above) Rs 10,000/-

TOTAL = Rs.93,000/-

Programmes having permission to change amounts under different heads with overall ceiling of Rs 0.93 lakh being intact.

- c. The grant is subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma to be submitted by the University/College/Institution. Further, the accounts of the institute will be open for test check by the Council or Controller & Auditor General of India or any other officer designated by them.

II. Disbursement of funds to institutions

The full amount of the grant sanctioned will be released as an advance to the University/Institute through electronic transfer on the account of the University/Institute after submission of mandate form

III. Conduct of test and issuance of certificate

- A test shall be conducted by coordinator at the end of the program.
- The certificates shall be issued to those participants who have been approved by coordinator, attended the program with minimum **80% of attendance** and scored **minimum 60% marks** in the test.

IV. Submission of documents by university/institution

- a. The following mandatory relevant documents are required to be submitted by the university/institution within one month of the completion of the program: -
 - (i) List of candidates who have successfully completed the program on the basis of the test conducted by Program Coordinator.
 - (ii) A program completion report along with photographs, videos, media report is to send after the completion of workshop along with the list of participants and Utilization Certificate, Expenditure Statement etc. within one month of conduct of **AICTE Training and Learning (ATAL) Academy programme**.
- b. The amount of the grant shall be adjusted on submission of utilization certificate & detailed expenditure statement by University/Institution. On receipt of these documents, the total amount of financial assistance, admissible as per the norms, shall be worked out and grant-in-aid shall to adjust.

V. General Instructions

- a. **Maximum 200 participants** may be allowed to attend online FDP. Coordinators are free to admit a smaller number of participants depending on the feasibility.
- b. A test has to be conducted (may be online) on the last day and those who score more than 60% will be termed as successful candidates. Those who have **attendance 80% or more** and also **score more than 60% in the test** will be issued a **digital certificate**.
- c. These **online sessions are to be recorded** as the facility is available on the software which is being used for online delivery of FDP. You are also requested to upload recording on youtube of google drive share recording link of sessions with AICTE.
- d. **Eligibility for Participants:**
 - a. The faculty members of the AICTE approved institutions, Research scholars, PG Scholars, participants from Government, Industry (Bureaucrats/Technicians/Participants from Industry etc.)/School Teachers and staff of host institutions.
 - b. Not more than 30% from Host Institution.
- e. If programme is not conducted in the financial year 2021 only, the released amount has to be returned back to AICTE.
- f. Any extra money required to complete the programme must be borne by the institute from their own resources but the quality of the activities should not be compromised.
- g. FDP title name, name of coordinator, institute name is not allowed to change without permission however schedule dates may be changed with information ATAL Academy cell and Regional Office.

This Sanction Order may be treated as Offer Letter for all purposes.

Yours sincerely,

-sd-

**Regional Officer
AICTE-CRO, Bhopal**

Copy forwarded for information and necessary action to: -

1. Dr. Vaibhav Neema, Coordinator ATAL Programme
2. **ATAL Academy Cell AICTE HQ**
3. **Guard File**

Faculty Development Program
(through Online mode)

on

**“Robotics: Exploring
Technology of Tomorrow”**

Sponsored By
AICTE - Training and Learning
(ATAL) Academy



14th -18th September 2021



Organized By

**Department of Electronics &
Telecommunication Engineering**
Institute of Engineering and Technology
(University Teaching

Department)

Devi Ahilya University
Khandwa Road, Indore (M.P.) – 452017,
India

www.jetdavnv.edu.in

Registration for FDP:

There is NO registration fee for participants.

Registration can be through link:

<https://www.aicte-india.org/atal>

About the Course:

The contents of the FDP are designed in such a way that this program fulfills the model curriculum of AICTE on Robotics. Robotics is a multidisciplinary field that involves design, construction, operation and use of robots for various applications. Advancement in this field has not only reduced the human efforts but has also set the new standards of precision and accuracy in the various fields of its applications. Robotics has unfathomable future which may lead to a new step towards human evolution. This FDP inculcates the knowledge of diverse fields of engineering for progress of robotics. The FDP shall dwell on current and future development as well as future R & D trends in technologies related to above areas.

FOCUS AREAS

- Experiments in Basic robotics to learn about automation
- Electronics for robotics
- Internet of robotics
- Rehabilitation robotics
- Multi robot systems
- Nature inspired mechanisms for robots
- Data robotics: data driven machine learning robots
- Arduino based robots
- AI & robotics
- Sensors and actuators in robotics
- Robotics2Rural: Innovative teaching & research approaches
- Current R&D in robotics

Coordinator:

Dr. Sanjiv Tokekar

Professor, Institute of Engineering and Technology, Devi Ahilya University, Indore, Cell: 9425322306 E-mail: stokekar@ietdavnv.edu.in

Address for Correspondence & Co-Coordinator:

Dr. Uma Rathore Bhatt,

Assistant Professor,
Institute of Engineering and Technology, Devi Ahilya University, Indore, Cell: 9425333837, 9399260833

Key Invited Speakers

Dr. Shivashankar B. Nair

Professor
Dept. of Computer Science & Engineering,
Indian Institute of Technology, Guwahati

Dr. Subir Kumar Saha

Professor
Department of Mechanical Engineering
Indian Institute of Technology, Delhi

Dr. Arpita Sinha

Associate Professor
Systems and Control Engineering
Indian Institute of Technology, Bombay

Dr. Anjali V Kulkarni

Principal Research Engineer
Centre for Mechatronics
IIT Kanpur

Dr. Santhakumar Mohan

Associate Professor, Mechanical Engineering
Indian Institute of Technology (IIT) Palakkad

Dr. Sonali Agarwal

Associate Professor, Dept of Information &
Technology
Indian Institute of Technology,
Allahabad

Mr. Satish Thakare

Chief Technical Officer
Scientech Technologies Pvt. Ltd., Indore

Mr. Manish Joshi

GM, Marketing
Scientech Technologies Pvt. Ltd., Indore

Dr. Prakash Dandekar

Retd. Professor SGSITS, Indore
Co-Founder at a startup building smart
electric vehicles, Indore

Ms. Neeta Raghuwanshi

Certified Heartfulness Meditation Trainer

Targeted Participants: Faculty members from Engineering Colleges, research scholars, post graduate students and personnel from government/industry.

Certificate No. ATAL/2021/1638779968



ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

Nelson Mandela Marg, Vasant Kunj, New Delhi – 110 070

AICTE Training And Learning (ATAL) Academy



Certificate of Appreciation

This is certified that Dr. Sanjiv Tokekar, Professor of Institute of Engineering & Technology, Devi Ahilya University, MADHYA PRADESH has successfully coordinated ATAL Online Faculty Development Programme on "Robotics: Exploring Technology of Tomorrow" from 14/09/2021 to 18/09/2021.

Adviser-I, ATAL Academy

Institute of Engineering & Technology, Devi Ahilya University, Khandwa Road, Indore

UTILIZATION CERTIFICATE FOR THE FINANCIAL YEAR April 2021-March 2022

Name of the Scheme under which Grant was sanctioned: AICTE Training and Learning (ATAL) Academy,
(Online FDP)

(to be submitted separately for each sanction order)

AICTE File No. : F. No. 01/AICTE/ATAL_HQ/2020-21, Date-11-06-2021

Name of Co-ordinator : Dr. Sanjiv Tokekar

Dates of the Programme: 14th of September 2021 to 18th of September 2021

Title of the ATAL Programme: Robotics: Exploring technology of Tomorrow

Sl. No.	AICTE Sanction Order/Letter No. & Date under which grant was sanctioned	Amount (Rs.)	
1.	F. No. 01/AICTE/ATAL_HQ/2020-21, Date-11-06-2021	93,000/-	Certified that out of the grant-in-aid of Rs. 93,000/- (Ninety Three Thousand Only) sanctioned by the AICTE during the financial year April 2021-March 2022 in favour of Institute of Engineering & Technology, Devi Ahilya University, Indore as per letter mentioned in the margin, Rs. NIL on account of unspent balance of previous year, NIL on account of other income / receipts, a sum of Rs. 93,000/- has been utilized for the purpose for which it was sanctioned and the balance of Rs. NIL remained unutilized at the end of the year.

Certified that I have satisfied myself that the conditions on which the grant-in-aid was sanctioned have been duly fulfilled and that I have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

S.V. Tokekar

(1). Dr. Sanjiv Tokekar (Coordinator of FDP)
Director, IET, DAVV, Indore

Director
Institute of Engineering & Technology
Devi Ahilya Vishwavidyalaya
INDORE

(2). Finance Controller
Devi Ahilya University Indore

(3). RAD/RSA
Devi Ahilya University Indore

सहायक संचालक,
स्थायी निधि संपरीक्षा,
ब.प्र. इन्दौर

(4). Head of Organization (Registrar)
Devi Ahilya University Indore



Energy Swaraj Foundation
Energy by Locals for Locals

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Date :	27/07/2021
Contact No :	8657438867
Email ID :	Info@energyswaraj.org
Received by	Energy Swaraj Foundation

Energy Swaraj Foundation

Flat No. A-215, Eastern Business District,
Opp. LBS Road, Near Mangatram Petrol Pump, Mumbai, Maharashtra, 400078

Member's Details

Member's Address :

Dept of E & TC, IET, DAVV, Indore, Madhya Pradesh.

Member's Name :Institute of Engineering and Technology Devi Ahilya Vishwavidyalaya

Description : Contribution to Energy Swaraj Foundation Movement – Institute Membership

Total Amount in Rupees : 10000/-

Amount in words : Ten Thousand Only.

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Energy Swaraj Foundation

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Swati Chandrabhan Kalwar
Authorize Signature

Thank you for your generosity. We appreciate your support!



ORIGINAL

No. 114203

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE

CERTIFICATE OF REGISTRATION OF DESIGN

Design No. 357319-001
Date 25/01/2022 19:40:52
Reciprocity Date*
Country

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 16-02 in respect of the application of such design to PROJECTOR in the name of 1. DR. VAIBHAV NEEMA, ASSISTANT PROFESSOR, INSTITUTE OF ENGINEERING AND TECHNOLOGY, DEVI AHILYA UNIVERSITY, KHANDWA ROAD, INDORE, MADHYA PRADESH, INDIA- 452017 2. MR. PRAVEEN SINGH, ASSISTANT PROFESSOR, INSTITUTE OF ENGINEERING AND TECHNOLOGY, DEVI AHILYA UNIVERSITY, KHANDWA ROAD, INDORE, MADHYA PRADESH, INDIA- 452017 3. MR. NIKHIL SHARMA, STUDENT, BACHELOR OF ENGINEERING, INSTITUTE OF ENGINEERING AND TECHNOLOGY, DEVI AHILYA UNIVERSITY, KHANDWA ROAD, INDORE, MADHYA PRADESH, INDIA- 452017 4. MR. SOMENDRA SINGH RAJPOOT, STUDENT, BACHELOR OF ENGINEERING, INSTITUTE OF ENGINEERING AND TECHNOLOGY, DEVI AHILYA UNIVERSITY, KHANDWA ROAD, INDORE, MADHYA PRADESH, INDIA- 452017, ET AL.

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BLI CONSULTANCY PVT. LTD., 627-A, SANJAY COLONY,
BHILWARA, RAJASTHAN - 311001

Date of Issue 26/05/2022 10:55:27

(54) Title of the invention : A SMART ELECTRICITY METER FOR REMOTE ELECTRICITY CONSUMPTION MEASUREMENT USING INTERNET OF THINGS TECHNOLOGY

(51) International classification :G06Q0010060000, G06F0011220000, G01G0019414000, G06Q0020140000, A61J0001180000

(86) International Application No :NA
 Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
 Filing Date :NA

(62) Divisional to Application Number :NA
 Filing Date :NA

(71)Name of Applicant :
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 Address of Applicant :Assistant Professor, Institute of Engineering and Technology, Devi Ahilya University, Khandwa Road, Indore, Madhya Pradesh, India- 452017 -----
 -

2)Mr. Praveen Singh
3)Mr Nikhil Sharma
4)Mr Somendra Singh Rajpoot
5)Mr Lavish Patidar
 Name of Applicant : NA
 Address of Applicant : NA

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 Address of Applicant :Student, Bachelor of Engineering, Institute of Engineering and Technology, Devi Ahilya University, Khandwa Road, Indore, Madhya Pradesh, India- 452017 -----
 -

5)Mr Lavish Patidar
 Address of Applicant :Student, Bachelor of Engineering, Institute of Engineering and Technology, Devi Ahilya University, Khandwa Road, Indore, Madhya Pradesh, India- 452017 -----
 -

(57) Abstract :
 When the world is talking about smart approaches, there is an urgent need for full scale automation at every stage. One such practice where there is a need for automation is the electricity bill generating and dispatching system. This paper focuses on suggesting smart solutions and approaches for generating electricity bills without the involvement of human resources. The technology used for the specified purpose is Internet of things. As we all are familiar about the flaws and loopholes in the existing bill generating system, this paper aims at removing all the possible flaws in the governing system efficiently. In present day scenario there comes many circumstances when the consumer feels that their recorded units are much more than their actual consumption and hence there is a kind of dissatisfaction from the authority. The possible reason to this problem can be human errors. To avoid such hurdles, we have proposed a model wherein the number of units are being counted by the microcontroller and are transmitted and uploaded to the cloud with the help of Wi-Fi module and from where the governing authorities can access the consumed electricity by the individual owners of the homes. This reduces the risk of errors while observing and entering the number of units in the registers and removes the need for appointing a number of individuals as meter readers.

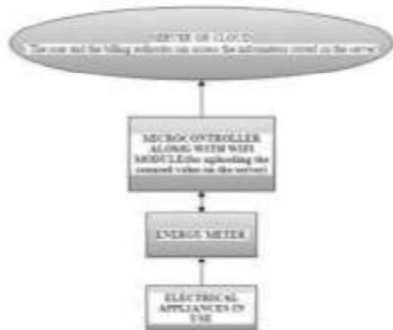


Fig. 1 Flow chart depicting the different stages

No. of Pages : 15 No. of Claims : 3



INTERNATIONAL CONFERENCE OF MULTIDISCIPLINARY
ASPECTS OF MATERIALS IN ENGINEERING - 2021



IC-MAME 2021

Organised by

UNIVERSITY INSTITUTE OF ENGINEERING & TECHNOLOGY,
PANJAB UNIVERSITY, CHANDIGARH

CERTIFICATE OF PAPER PRESENTATION

This is to certify that

VIJAY KUMAR KARMA

of *Devi Ahilya University, Indore, India* participated and presented the paper ID *ICMAME-P-21-66* titled *Analysis of Effects of Change of Gear Parameter Module on Transmission Error in Spur Gear using Interference Volume Method* during "International Conference of Multidisciplinary Aspects of Materials in Engineering" held on 8th- 9th October 2021 at Panjab University, Chandigarh.

Dr. Gaurav Sapra
Co-Chair, IC-MAME 2021

Dr. Rajesh Kumar
Co-Chair, IC-MAME 2021

Prof. Sunil Agrawal
Chair, IC-MAME 2021

Prof. J.K. Goswamy
Patron, IC-MAME 2021





International Conference on Smart Technologies for Sustainable Development (ICSTSD2021)

28th – 29th October, 2021

Certificate of Authorship

This is to certify that

Amit Kumar Mittal

of

IET DAVV Indore, Madhya Pradesh

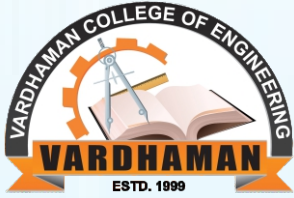
has authored the paper entitled

A Review on forecasting the photovoltaic power Using Machine Learning

*in the International Conference on Smart Technologies for Sustainable Development
at JIS College of Engineering held on 28th and 29th October, 2021*

Dr. Indranath Sarkar & Mr. Jit Chakraborty
Joint Conveners, ICSTSD2021

Prof. (Dr) Partha Sarkar
Principal, JISCE & Mentor, ICSTSD2021



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4th International Congress on Advances in Mechanical Sciences

CERTIFICATE OF APPRECIATION

This is to certify that

Mr. Vijay Kumar Karma

has presented a paper entitled

"Analysis of Effects of No of Teeth and Pitch Error on Transmission Error using Interference Volume Method "

in ICAMS-2021 organized by the Department of Mechanical Engineering held during November 26th & 27th 2021.

Convener

Conference Chairman

Patron



Certificate of Presentation

This certificate is awarded to

Vijay Kumar Karma

for successfully presenting the paper entitled


Analysis of Effect of Pitch Error on Transmission Error and Mesh Stiffness in Spur Gear using SciLab and Ansys Software

at the

4th International Conference on Trends in Material Science and Inventive Materials (ICTMIM 2022)
organized by JCT College of Engineering and Technology, Coimbatore, India
held on 24-25, March 2022.


Session Chair


Conference Chair
Dr. K. Geetha


Principal
Dr. S. Manoharan